

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

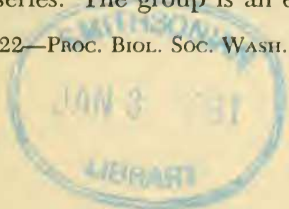
GEOGRAPHIC VARIATION IN THE WESTERN WOOD
PEWEE (*CONTOPUS SORDIDULUS*)

BY THOMAS D. BURLEIGH

*Branch of Wildlife Research, Fish and Wildlife Service,
Washington, D. C.*

In March 1866, Elliott Coues published a paper on the birds of southern Arizona (A List of the Birds of Fort Whipple, Arizona, Proc. Acad. Nat. Sci. Phila., March 1866, 18: 39-100) in which he commented on the variation that he noted in his series of skins of the western wood pewee. He states: "There has been made upon me an impression that there are two species. By far the majority of specimens are of the regulation *Richardsonii* type. A few others . . . differ in being all over of a more decided and uniform grayish brown; with less of olive above . . . the breast more purely gray. The bird may be well described as a miniature of *C. borealis*. Prof. Baird has always, to me, *verbis et literis*, indicated his decided conviction that there are two species in the collection."

Many years later Robert Ridgway (Bull. U. S. Nat'l Museum, No. 50, Part 4, 1907, pp. 521-524) expressed much the same opinion in discussing the characters of this species. In a footnote he comments as follows: "Although convinced, from intimate personal acquaintance of both in life, that this form and *M. virens* are specifically distinct I am at present unable to give a better diagnosis. The differences are more easily seen than described; but nevertheless it is often difficult to identify specimens as one or the other without doubt. It is not at all unlikely that this difficulty may be in part owing to the inclusion under the name *richardsonii* of what may be in reality two or three distinct forms; otherwise it is hard to account for the unusual variations of coloration noticeable in a large series. The group is an exceedingly difficult one, which



will require not only a very large amount of material, but also much time and patience for its satisfactory elucidation."

Phillips and Parkes (*Condor*, 57(4): 244-246, July, Aug. 1955) comment on the fact that uncertainty has always existed as to the type of *Contopus richardsonii* (*Tyrannula richardsonii* Swainson) and that study on their part has convinced them that the type specimen, no longer extant, was actually a Phoebe (*Sayornis phoebe*) and not a *Contopus*. They base their conclusions on Swainson's plate (*Fauna Bor. Am.* 1831: 146), representing an immature bird, stating that it "bears little or no particular resemblance to juvenal plumage *Contopus*," and also on the measurements given that are those of *Sayornis*. This would place *richardsonii* in the synonymy of *Sayornis phoebe*, and in its place they suggest *veliei*, a name somewhat hesitantly suggested by Coues should the Arizona bird be considered distinct. This suggestion was subsequently approved by the A.O.U. Committee on Nomenclature, and appears in the 1957 Check-List.

In connection with a detailed report on the birds of Idaho, I had occasion to examine critically a series of western wood pewees personally collected in various parts of this state. Not only did they appear to differ in appearance from specimens of *veliei* from east of the Continental Divide, but in the large series of *Contopus sordidulus* available in the collections of the National Museum, the considerable variation noted by both Coues and Ridgway was clearly evident. It appeared desirable, therefore, to compare breeding birds from throughout the range of this species in the United States. Arranged geographically it was apparent that not only did the western wood pewees of the Columbia Basin represent a distinct and undescribed race, but that, as suspected by both Coues and Ridgway, there are two races occurring within the present accepted range of *veliei* as given in the 1957 Check-List. Accordingly, *Contopus sordidulus* north of the Mexican border is represented by four recognizable races; these are as follows:

Contopus sordidulus veliei Coues

Characters: Upper parts fuscous-olive; throat grayish white, tinged with yellow; chest and sides of breast dark gray; belly pale yellow; under tail coverts whitish.

Measurements: Adult male (8 breeding specimens from Arizona): wing 82–89 (86.5) mm; tail 61–67 (63.8); exposed culmen 11–12 (11.5). Adult female (8 breeding specimens from Arizona): wing 79–86.5 (82.1); tail 58–63 (60); exposed culmen 10–12.5 (11.1).

Type: Adult male No. 36938, U. S. National Museum, Fort Whipple (Prescott), Arizona, 10 August 1864; Dr. E. Coues, original number 522.

Distribution: Breeds from northern California, Nevada, Utah, and Colorado south through Arizona, New Mexico, and western Texas to northern Baja California, eastern Sonora, and northern Chihuahua. Migrates south at least to Panama and probably winters in South America.

Remarks: In commenting on the variation he noted in the series of specimens of the western wood pewee that he collected in Arizona, Coues called attention to the fact that the "majority" were characterized by the olive tone of the upper parts. Although he admitted being reluctant to describe a new race from the southwestern United States he nevertheless designated a type that he called *veliei*, with the type locality Fort Whipple. On rather inconclusive evidence, Phillips and Parkes (1955) reject Fort Whipple as the type locality, but as pointed out by Alexander Wetmore, in notes he has kindly placed at my disposal, they overlooked the specimen that had been selected by Coues. This bears a label on which is printed "Explorations in Arizona, Dr. Elliott Coues, U.S.A.," and on which Coues has written in his own handwriting "Contopus veliei Coues ♂ August 10/64," adding in parentheses after Fort Whipple "(Prescott)." It was entered in the Museum catalog in March 1865, so it appears certain that Coues had it available when he wrote his account under the heading *Contopus richardsonii*. In effect, therefore, Coues has designated definitely the type locality. This specimen, although showing evidences of "foxing," represents the olivaceous form typical of the breeding birds of Arizona, so Coues' name is applicable to this breeding population.

Specimens of Contopus sordidulus veliei examined: Total number 56 from the following localities: TEXAS: El Paso, 21 June 1889, ♀; Presidio County, 10 June 1890, ♂; Fort Hancock, 14 June 1893, ♂; Fort Clark, 14 May 1898, ♂; Tascosa, 4 June 1899, ♂; Marathon, 13 May 1901, ♂; 15 May 1901, ♀; 16 May 1901, ♀; 18 May 1901, ♂; Boquillas, 24 May 1901, ♂; Chisos Mts., 13 June 1901, ♀; Frijole, 29 April 1939, ♂. ARIZONA: Fort Verde, 24 May 1884, ♂; Huachuca Mts., 4 May 1888, ♂; Rice, 20 May 1916, ♂; Madera Canyon, Santa Cruz County, 6 August 1918, ♀; Maricopa County, 10 June 1918, ♂; Yuma County, 29 May 1918, ♂; Mayer, 23 May 1927, ♀; 24 May 1927, 2 ♂♂; 26 May 1927, ♂; 29 May 1927, ♀; Lukachukai Mts., 21 June 1927, ♂. NEW MEXICO: Capitan Mts., 15 July 1903, ♂; Tres Piedras, 31 July 1904, ♀; Animas Peak, Grant County, 27 July 1908, ♂; Zuni Mts., 16 June 1909, ♀. CALIFORNIA: Mendocino County, 4 June 1889, ♂; Shasta County 9 June 1906, ♂; Mt. Veeder, 23 August 1909, ♀; Nevada City, 27 May 1911, ♂; Truckee, 10 August 1940, ♀. NEVADA: Glenbrook, 28 May 1889, ♀; Mt. Magruder, 4 June 1891, ♂; Peavine, 1 June 1898, ♀; Elko, 3 June 1898, ♂. UTAH: Pinto, Washington County, 14 June 1938, ♀; 18 June

1938, ♀; E. Pine Valley, Washington County, 15 June 1938, ♂; Silver Lake P. O., Salt Lake County, 12 June 1943, ♂; 19 June 1943, ♀; 26 June 1943, ♂; Midway Fish Hatcheries, Wasatch County, 4 June 1944, ♂; 7 June 1944, ♂; Big Glade, Wasatch County, 20 June 1946, ♂; Posy Lake, Garfield County, 10 June 1952, ♀; Skull Valley, Tooele County, 14 June 1954, ♀; Spring Canyon, Wayne County, 26 June 1956, ♀. COLORADO: Ft. Garland, 6 June 1873, ♂; Grand Junction, 28 June 1893, ♂; Granby, 10 June 1910, ♀; Lake Eldora, 26 June 1910, ♂; Boulder County, 29 June 1933, ♀; 1 July 1933, ♂. PANAMA CANAL ZONE: 12 October 1953, ♂.

Contopus sordidulus amplus, new subspecies

Characters: Similar to *veliei* but upper parts darker, and distinctly more brownish, less olivaceous; yellow of belly paler and approaching dull white in extreme specimens; wing and tail longer.

Measurements: Adult male (10 breeding specimens from Wyoming and Montana): wing 89–93 (90.8) mm; tail 65–71 (67.6); exposed culmen 10–13 (12). Adult female (6 breeding specimens from Wyoming and Montana): wing 82–88 (85.3) mm; tail 63–67 (64.5); exposed culmen 10–12 (11.2).

Type: Adult male No. 463925, U. S. National Museum (Fish and Wildlife Service collection), Havre, Montana, 12 August 1955; Thomas D. Burleigh, original number 16316.

Distribution: Breeds from central Alaska, southern Mackenzie, Saskatchewan, and southern Manitoba south through British Columbia and eastern Montana to Wyoming and in western North Dakota and extreme western South Dakota. Migrates through Costa Rica and Panama, and probably winters in South America.

Remarks: Being a late migrant in the spring, *amplus* can be found well south of its breeding range at a time when its occurrence then would suggest nesting. It was this fact that caused the uncertainty as to the actual characters of the breeding wood pewees in Arizona when Coues, and later Ridgway, examined the series of presumably breeding birds, and noted the considerable variation in color. It is the latter part of May before western wood pewees can be found in any numbers on their more northern breeding grounds, and even at this late date belated individuals of *amplus* doubtless occur within the range of *veliei*.

Specimens of Contopus sordidulus amplus examined: Total number 28, from the following localities: MONTANA: Ft. Keogh, 16 June 1889, no sex; Glasgow, 18 June 1910, ♀; 21 June 1910, ♂; Powder River, 15 June 1916, ♂; Moorhead, 22 June 1916, ♀; Crow Agency, 11 July 1916, ♂; Dillon, 9 August 1917, ♂; Big Timber, 13 June 1917, ♂; Terry, 10 June 1918, ♂; Miles City, 5 July 1918, ♂; Lismas, 28 June 1919, ♀; Havre, 12 August 1955, ♂. WYOMING: Greybull, 7 June 1910, 3 ♂♂; 8 June 1910, ♀, ♂; 10 June 1910, ♂; 13 June 1910, ♀; Bridge Peak, Sierra Madre Mts., 18 June 1911, ♀; 20 June 1911, ♂; Pinedale, 25 July 1911, ♀; Kendall, 28 July 1911, ♀. SOUTH DAKOTA: Buffalo Gap, 23

June 1888, ♂. ALASKA: Ft. Egbert, 19 June 1901, ♂. BRITISH COLUMBIA: Okanagan Landing, 13 May 1922, ♀; Bulkley Lake, 29 July 1949, ♀. COSTA RICA: Liberia, 30 October 1940, ♀. PANAMA CANAL ZONE: 30 September 1953, ♀; 9 October 1953, ♂.

Contopus sordidulus siccicola, new subspecies

Characters: This is the palest of the four races. It differs from both *veliei* and *amplus* in having the upper parts washed with gray, the gray of the under parts much paler and the yellow of the belly largely replaced with dull white. In size it is similar to *veliei*, being smaller in both wing and tail measurements than *amplus*.

Measurements: Adult male (10 breeding specimens from Idaho): wing 85–90 (87) mm; tail 62–65.5 (63); exposed culmen 11–13 (11.9). Adult female (6 breeding specimens from Idaho and eastern Washington): wing 83–86 (84.5) mm; tail 60–65 (63.3); exposed culmen 11–12 (11.5).

Type: Adult male No. 420775, U. S. National Museum (Fish and Wildlife Service collection), Potlatch, Idaho, 19 May 1952, Thomas D. Burleigh, original number 14647.

Distribution: Breeds in southern British Columbia east of the coast ranges, Washington east of the Cascades, Idaho, Oregon, and western Montana west of the Continental Divide. No specimens seen from south of the breeding area indicative of distribution in migration or winter.

Remarks: In its characters, notably the gray of the upper parts, *siccicola* suggests the racial differences evident in the races of other species described from this region. This emphasizes the significance of the western slopes of the northern Rocky Mountains as an area of morphological differentiation. In its distribution this new race is characterized by its disregard for altitude. In Idaho it has been found nesting at Lewiston, Nez Perce County, at an altitude of 840 feet (the lowest in the state), and at Galena Summit, Blaine County, at an altitude of 8,795 feet. Specimens taken at these extreme limits show no appreciable differences in color or size, and are in every respect typical of *siccicola*.

Specimens of Contopus sordidulus siccicola examined: Total number 39, from the following localities: IDAHO: Moscow, 15 May 1948, ♂; 20 June 1948, ♂; 10 July 1948, ♂; 23 July 1948, 2 imm. ♂♂; 17 July 1949, ♂; 25 August 1949, ♂ imm.; 30 August 1949, ♀ imm.; 5 September 1949, ♂ imm.; 7 September 1949, ♂ imm.; 18 May 1950, ♂; 25 July 1951, ♀; 14 September 1951, ♂ imm.; 18 September 1951, ♀ imm.; 8 July 1952, ♂; 18 May 1953, ♂; 7 September 1957, ♂ imm.; 16 September 1957, ♂ imm.; Potlatch, 26 May 1949, ♂; 19 May 1952, ♂; Lewiston, 21 June 1950, ♂; 28 July 1957, ♀, ♂ imm.; Galena Summit, Blaine County, 26 June 1950, ♀; MacKay, Custer County, 13 July 1958, ♀. WASHINGTON: Bly, 3 June 1919, ♀; Grand Ronde River, 14 June 1919, ♀; Anatone, 26 June 1919, ♀; Ferry Lake, 16 June 1942, ♀; Palouse, 24 July 1949, ♂; Pullman, 8 June 1951, ♀; Spokane, 21 July 1955, ♀; 7 August 1958, ♀. OREGON: Disaster Peak, 14 June 1915, ♀; Meacham,

21 July 1915, no sex indicated; Homestead, 4 June 1916, ♂; 6 June 1916, ♀; Reston, 5 July 1916, ♀; Portland, 30 May 1954, ♀.

Contopus sordidulus saturatus Bishop

Characters: This is the darkest of the four races. It most closely resembles *amplus* in the brown coloration of the upper parts, and is the least olivaceous of the four races. Compared with *amplus* the brown of the upper parts is noticeably darker, the gray of the under parts darker and more extensive. In size it is similar to *veliei*, both the wing and tail being shorter than in *amplus*.

Measurements: Adult male (5 breeding specimens from Oregon, Washington, and British Columbia): wing 86–90 (88.6) mm; tail 61–66.5 (64); exposed culmen 10–12 (11.3). Adult female (5 breeding specimens from Washington and Oregon): wing 82.5–85 (84.2); tail 60–64 (61.5); exposed culmen 10–11 (10.6).

Type: Adult male, Chicago Natural History Museum, Haines, Alaska, 2 June 1899; L. B. Bishop, original number 4142.

Distribution: Breeds from southeastern Alaska south through western British Columbia, western Washington, including the Cascade Mountain area, western Oregon, and possibly the coast region of northwestern California. Migrates southward through Central America (Guatemala), probably wintering in South America.

Remarks: For many years after it was described, *saturatus* was not considered a valid race by the Committee on Classification and Nomenclature of the A.O.U. This was probably due to the uncertainty resulting from the variation noted in supposedly breeding birds from various areas in the western United States. This situation results from the late date in the spring when transients can still be found well south of their breeding range. In common with so many species occurring in the northwest coastal area, *Contopus sordidulus* is characterized by a dark coloration and is quite distinct from breeding populations of this species east of the Cascades.

Specimens of Contopus sordidulus saturatus examined: Total number 15 from the following localities: ALASKA: Lake Mansfield, 18 July 1921, ♀. BRITISH COLUMBIA: Hazelton, 21 July 1918, ♂. WASHINGTON: Mt. Vernon, 26 June 1897, ♂, ♀; Blewett, 23 June 1941, ♀; Soda Springs, 23 June 1946, ♂; Yakima, 31 August 1951, ♂ imm. OREGON: Fort Klammath, 15 July 1883, ♂; Diamond Lake, 10 August 1896, ♀; Tillamook, 3 July 1897, ♀; Maury Mts., 30 June 1896, ♂; Roseburg, 12 July 1955, ♀. CALIFORNIA: Pacific Grove, 8 June 1909, ♀. GUATEMALA: Alotenango, east base of Volcan de Fuego, 5 November 1936, ♂; Panajachel, 14 November 1936, ♀.